



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,209	03/23/2004	Shuichi Tsukada	OGW-0311	1922

23353 7590 08/28/2006

RADER FISHMAN & GRAUER PLLC
LION BUILDING
1233 20TH STREET N.W., SUITE 501
WASHINGTON, DC 20036

EXAMINER

FISCHER, JUSTIN R

ART UNIT PAPER NUMBER

1733

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/806,209

Applicant(s)

TSUKADA ET AL.

Examiner

Justin R. Fischer

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Kajiwara (JP 03193510) or Numata (JP 11170824) in view of Akiyoshi (JP 2001-113902), Martin (US 4,034,792), McDonald (US 4,343,342), Sakamoto (US 6,418,993), and Hendrie (US 6,536,368). The references are applied in the same manner as set forth in Paragraph 3 of the Non-Final Rejection mailed on March 30, 2006.

Kajiwara (Figures 1 and 2) and Numata (Figures 1, 2, and 5) disclose pneumatic tire constructions in which a rubber member or "volume adjusting member" is arranged between an inner liner and a carcass layer in the bead regions. It is clearly evident from each figure that the inclusion of rubber member reduces the volume of the tire cavity by altering the contour of tire inner surface (change in section shape). The reference, however, is silent as to the formation of such members in a circumferentially discontinuous manner (intermittently arranged). In any event, it is extremely well known in the tire industry to form a wide variety of tire layers and components in either a continuous or discontinuous manner, as shown for example by Akiyoshi (Figures 1-10), Martin (Figures 1 and 6), McDonald (Column 2, Lines 1-10), Sakamoto (Column 1,

Art Unit: 1733

Lines 30-40), and Hendrie (Column 3, Lines 30-40). In such instances, sufficient reinforcement or effect on a given property is obtained and tire weight is minimized. It is emphasized that the concept of forming tire layers in a discontinuous manner is extremely well known and conventional in the tire industry and as such, one of ordinary skill in the art at the time of the invention would have found it obvious to incorporate such a design in either Kajiwara or Numata depending on the desired distribution of the reinforcement. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the formation of such members in a discontinuous or intermittent fashion.

In particular, Akiyoshi is directed to an extremely similar tire construction in which a "volume adjusting member" is discontinuously arranged over the circumferential extent of the tire- in this instance, a discontinuous arrangement is able to provide the desired reduction in noise (reduction in columnar resonance), which is the same benefit achieved in the tire of Kajiwara. As such, there would have been a reasonable expectation of success in forming the construction of Kajiwara with an intermittent or discontinuous arrangement.

Regarding claim 2, discontinuous arrangements are commonly formed with equal spacings (see above noted references). One example of such an arrangement is Akiyoshi (Figures and Paragraph 8).

As to claim 3, Kajiwara teaches a thickness between 3 and 10 millimeters (Page 59, bottom right) and Numata teaches a thickness between 1.5 and 2.5 millimeters (Abstract).

Art Unit: 1733

3. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kajiwara (JP 03193510), Numata (JP 11170824), Akiyoshi, Martin (US 4,034,792), McDonald (US 4,343,342), Sakamoto (US 6,418,993), and Hendrie (US 6,536,368) as applied in the claims above and further in view of Yamada (JP 02106330). The references are applied in the same manner as set forth in Paragraph 4 of the Non-Final Rejection mailed on March 30, 2006.

Kajiwara and Numata are silent as to the specific tire manufacturing method. In any event, the claimed method is consistent with the common methods of forming tires, as shown for example by Yamada (Abstract and Figures 2 and 3). In this instance, Yamada recognizes the placement of a reinforcing layer (analogous to rubber members) on each side of a base rubber sheet (analogous to inner liner), subsequently winding the assembly on a drum, and winding any additional layers and finally curing/vulcanizing the tire. It is emphasized that such a winding technique around a drum is extremely well known and extensively used in the manufacture of tires.

Response to Arguments

4. Applicant's arguments filed June 22, 2006 have been fully considered but they are not persuasive.

Applicant argues that Kajiwara and Numata fail to disclose the arrangement of volume adjusting members at equal intervals and Akiyoshi does not expressly disclose such an arrangement. However, as depicted in Figures 1-3, 8, and 9 and expressly disclosed in Paragraph 8 (see attached translation), Akiyoshi expressly teaches the placement of such members at "regular intervals".

Applicant further argues that there is no motivation to modify the tire structures of Kajiwara or Numata. As detailed in the rejection above, the general inclusion of discontinuous reinforcement elements in the tire industry is well known. In particular, such discontinuous reinforcement structures are included in order to maintain low tire weight (while providing the desired reinforcement effect). Thus, one of ordinary skill in the art at the time of the invention would have been amply motivated to form the reinforcement members of either one of Kajiwara or Numata in a discontinuous manner. It is further noted that Akiyoshi even describes the use of both continuous (Figure 6) and discontinuous arrangements (Figures 1-3, 8, and 9).

Additionally, in regards to claim 4, applicant contends that Yamada fails to intermittently crimp volume-adjusting members on both side sections of a "sheet inner liner material". However, the reference is applied to evidence a recognized technique of applying reinforcing members to an underlying structure, be it an innerliner material or a carcass. The above noted rejection involves the modification of the tire structure of either Kajiwara or Numata in view of Akiyoshi, Martin, McDonald, Sakamoto, and Hendrie and thus, the tire construction being modified does include discontinuous volume-adjusting members. In view of Yamada, the discontinuous members would be applied to each side of an inner liner material at equal intervals, a method which is seen to be consistent with that of the claimed invention. Furthermore, the general placement or attachment of the plurality of discontinuous members to the inner liner material is seen to represent a crimping step, there being no disclosure to suggest that "crimping" of the claimed invention defines over the method of Yamada.

In regards to Akiyoshi and Kajiwara, it is agreed that they are not directed to the identical noise reducing system; however, Akiyoshi does provide evidence that noise-reducing systems in tires can function while being formed of discontinuous reinforcing members.

Lastly, applicant argues that Table 2 does provide a comparison with the closest prior art. The examiner respectfully disagrees. In this instance, the closest prior art is not based on solving similar problems but rather is dependent on the similarities between respective tire constructions. In this instance, the tire constructions of Kajiwara and Numata more closely resemble the tire construction of the claimed invention (as set forth in the claims), as compared to tires in which the respective members are on the interior of the tire cavity.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

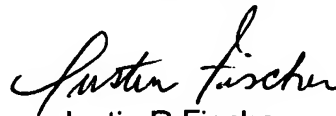
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1733

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Justin R Fischer
Primary Examiner
Art Unit 1733

JRF
August 22, 2006